

WHAT IS CLAIMED IS:

1. An in-line system for fabricating a liquid crystal display, the in-line system comprising:

a spacer dispersing unit for dispersing spacers onto at least one of first and second substrates with a plurality of liquid crystal display cell regions;

a sealer coating unit for coating a sealer onto the first substrate;

a liquid crystal injection unit for dropping liquid crystal onto the first substrate coated with the sealer;

an assembly unit for assembling the first substrate with the second substrate;

a sealer hardening unit for hardening the sealer interposed between the first and the second substrate to thereby join the first and the second substrate; and

a substrate cutting unit for cutting the first and the second substrates along cutting lines through illuminating a laser beam along the cutting lines such that the first and the second substrates are severed into the liquid crystal display cell regions.

2. The in-line system of claim 1 wherein the substrate cutting unit comprises:

a laser for pre-heating the first and the second substrates along the cutting lines;

a laser transporter for fixing or transporting the laser; and

a cooling agent spraying unit for cooling the pre-heated first and second substrates along the cutting lines.

3. The in-line system of claim 2 wherein the substrate cutting unit
5 further comprises a substrate transporter for fixing, rotating or transporting the first and the second substrates.

4. The in-line system of claim 2, wherein the cooling agent spraying unit is mounted on the laser transporter.

10

5. The in-line system of claim 1 wherein the spacer dispersing unit, the sealer coating unit, the liquid crystal injection unit, the assembly unit, the sealer hardening unit and the substrate cutting unit are designed to be in-line.

15

6. The in-line system of claim 1 further comprising first and second preliminary alignment units for aligning the first and the second substrates with each other before the assembling, and a heat treatment unit for heat-treating the liquid crystal.

20

7. A method of fabricating a liquid crystal display, the method comprising the steps of:

dispersing spacers onto at least one of first and second substrates with a plurality of liquid crystal display cell regions;

coating a sealer onto the first substrate;
dropping a liquid crystal onto the first substrate;
assembling the first and the second substrates to join with each other;
hardening the sealer interposed between the first and the second
5 substrates; and

cutting the first and the second substrates along cutting lines using a
laser such that the first and the second substrates are severed into a plurality of
liquid crystal display cell regions.

10 8. The method of claim 7 wherein the step of cutting the first and
the second substrates further comprises the steps of:

pre-heating the first and the second substrates along the cutting lines
through illuminating a laser beam along the cutting lines;

cooling the first and the second substrates along the cutting lines through
15 spraying a cooling agent along the cutting lines to thereby form a crack; and
propagating the crack along the cutting lines.

9. An in-line system for fabricating a liquid crystal display, the in-line
system comprising:

20 means for dispersing spacers between first and second substrates;
means for joining the first and second substrates to form a gap;
means for injecting liquid crystal onto the gap; and
means for cutting the first and the second substrates along cutting lines

such that the first and the second substrates are severed into the liquid crystal display cell regions.

10. The in-line system of claim 9 wherein the means for cutting
5 comprises:

a laser for pre-heating the first and the second substrates along the cutting lines;

a laser transporter for fixing or transporting the laser; and

a cooling agent spraying unit for cooling the pre-heated first and second
10 substrates along the cutting lines.

11. The in-line system of claim 9 wherein the means for joining
comprises a sealer coating unit and a sealer hardening unit, the sealer coating
unit for coating at least one of the first and second substrates with a sealer and
15 the sealer hardening unit for hardening the sealer.